

## CLAIMS

What is claimed is:

1. A system for accurately measuring choke position comprising:
  - a. a choke position indicator;
  - 5 b. a choke adapted to control the flow of high pressure fluids during completion of a well comprising a stationary housing for containing a hydraulic cylinder or manual operator, a choke actuator shaft with a gate, disposed in the housing connected to the hydraulic cylinder or manual operator wherein the hydraulic cylinder or manual operator moves the choke actuator shaft with gate towards or  
10 away from a gate seat, and wherein the distance between the gate to the gate seat determines the amount of high pressure fluids that pass through the choke;
  - c. a magnet mounted on the choke actuator shaft;
  - d. a magneto/hall device for sensing the location of the magnet as the choke actuator shaft moves, wherein said magneto/hall device is mounted to the stationary  
15 housing and provides an analog signal;
  - e. a power wire connecting the magneto/hall device to a power source;
  - f. a ground wire to ground the magneto/hall device;
  - g. an analog-to-digital converter for receiving the analog signal from the magneto/hall device and converting the analog signal to a digital signal; and
  - 20 h. a processor in communication with the digital to analog converter for converting the digital signal into choke shaft positions and transmitting the choke shaft positions to the choke position indicator.

2. The system of claim 1, wherein the analog-to-digital converter is a microcontroller.
3. The system of claim 1, wherein the choke position indicator is a human/machine interface.
4. The system of claim 3, wherein the human/machine interface is selected from the group consisting of a dial, an LCD display or; a plasma screen television.
5. The system of claim 1, wherein the magnet is mounted on the choke actuator shaft opposite the gate.
6. The system of claim 5, wherein the magnet is mounted on a bracket mounted to the choke actuator shaft.
7. The system of claim 1, wherein the magneto/hall device is mounted to the inside of the stationary housing proximate to the hydraulic cylinder or manual operator.
8. The system of claim 1, wherein the choke is hydraulically actuated or manually operated.
9. The system of claim 1, wherein the magneto/hall device comprises a housing containing a Hall device and semiconductor device for scaling electrical signals based on the proximity of the magneto/hall device to the magnet.
10. The system of claim 9, wherein the magneto/hall device is mounted to the stationary housing using threads disposed on the outside of the housing of the magneto hall device.
11. The system of claim 1, wherein the fluids are high pressure gas, high pressure oil, high pressure water, steam or combinations thereof.
12. The system of claim 1, wherein the ground wire is black and the power wire is red.
13. The system of claim 1, wherein the magneto/hall device communicates with the analog-to-digital converter with a signal wire.

14. The system of claim 13, wherein the signal wire is color coded green.